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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/017,440 | 12/14/2001 | Douglas J. Bradley | 10541-780 | 6308 |

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| EXAMINER |
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BINDA, GREGORY JOHN

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| ART UNIT | PAPER NUMBER |
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3679

DATE MAILED: 10/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/017,440

Applicant(s)

BRADLEY ET AL.

Examiner

Greg Binda

Art Unit

3679

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 July 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) 6-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 21 and 22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 July 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 9.
- 4) ☒ Interview Summary (PTO-413) Paper No(s) 10.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Art Unit: 3679

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Election/Restrictions

2. Claims 6-20 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in Paper No. 6.

Drawings

3. The drawing corrections were received on July 14, 2003. These drawings are objected to as failing to comply with:

a. 37 CFR 1.83(a) because:

- i. Figs. 5 & 7 fails to show a composite shaft 30 which could provide “two points of contact”, a critical feature of the claimed invention per page 7, lines 19-28. Instead of protruding from the outer surface of the shaft 30 (as shown in Fig. 4), Figs. 5 & 7 show the heads 15 of the features 17 covered by a second layer of material 36.
- ii. None of the figures shows a head piece comprising a fastener as recited in claim 3.

b. 37 CFR 1.84(p)(4) because in Figs. 3A & 9A-9D reference numerals 15-17 are used to identify a part and then reused to identify a modification(s) of such part. See MPEP § 608.02(e).

Art Unit: 3679

4. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

5. The specification is objected to as failing to comply with 37 CFR 1.71 and 1.75(d)(1) because the detailed description fails to provide proper antecedent basis a fastener shaped head piece as recited in claim 3.

Claim Objections

6. Claim 5 is objected to because in line 3 the word “or” should be changed to “and”. See MPEP § 2173.05(h).

Claim Rejections - 35 USC § 101

7. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

8. Claims 1-5, 21 & 22 are rejected under 35 U.S.C. 101 because the claimed invention is inoperative and therefore lacks utility. Claim 1, lines 7 & 8 recites the limitation “ a layer of composite fibrous material [36] extending around and over the entirety of said shaft body [34] and said features [15-17]”. However, if the composite layer 36 covers the “entirety” of the shaft

Art Unit: 3679

body 36 and the features 15-17 as shown in Figs. 5 & 7, then it is not possible for the resulting composite shaft 30 to attain two point contact 32 with a metal sleeve 24. Without such contact, it is not possible to attain “a more secure and strengthened connection” that is “less likely to disengage during typical use” (see page 7, lines 22-28).

Claim Rejections - 35 USC § 102

9. Claims 1-4 & 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Puck et al, US 4,362,521 (Puck). Fig. 1 shows a composite drive shaft comprising: a cylindrical shaft body 2 including at least one carbon fiber sheet of composite fibrous material (see also col. 3, lines 15-21); a plurality of metal pins 5; adhesive (see “cemented: in col. 1, line 66 and col. 2, line 2) between each of the pins 5 and the cylindrical shaft body 2; a layer 3, 6 of composite fibrous material extending around and over the entirety of the shaft body 2 and the pins 5.

10. Claims 1-4, 21 & 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Orkin et al, US 4,704,918. Fig. 2 shows a composite drive shaft comprising: a cylindrical shaft body 32 including at least one carbon fiber sheet of composite fibrous material (see also col. 4, lines 10-19); a plurality of metal pins 22, 24 & 29; an epoxy-based adhesive (see also col. 4, lines 50-59 and col. 5, lines 1-3) between each of the pins 22, 24 & 29 and the cylindrical shaft body 32; a layer 34 of composite fibrous material extending around and over the entirety of the shaft body 2 and the pins 5 (see also col. 4, lines 3-5 and col. 5, lines 18-22).

Art Unit: 3679

11. Claims 1, 5, 21 & 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Chulpsa, US 5,080,943. Figs. 5 & 6 show a composite drive shaft comprising: a cylindrical shaft body 1, 2; a plurality of features 3, each feature comprising a head piece 13 and a fin shaped (see “wave-like” in col. 3, line 32) anchor piece 12; an epoxy-based adhesive (see also col. 3, line 25) applied between each of the features 3 and the cylindrical body 1, 2; and a layer of composite fibrous material 4-6 extending around and over the entirety of the shaft body 1, 2 and the features 3.

Response to Arguments

12. Applicant's arguments filed July 14, 2003 have been fully considered but they are not persuasive. Applicant argues that Puck does not show a layer of composite fibrous material extending around and over the entirety of the shaft body and features. However, as noted in the rejection above, Fig. 1 shows the layer 3, 6 of composite fibrous material extending around and over the entirety of the shaft body 2 and features 5.

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Simon, Mak et al and Kadono et al each show a composite shaft.

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

Art Unit: 3679

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

15. This application contains claims 6-20 drawn to an invention nonelected with traverse in Paper No. 6. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144). See MPEP § 821.01.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Greg Binda whose telephone number is (703) 305-2869. The examiner can normally be reached Monday through Thursday from 9:30 am to 7:00 pm. The examiner can also be reached on alternate Fridays. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynne Browne, can be reached on (703) 308-1159. The fax phone number is (703) 872-9306. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-2168.



Greg Binda
Patent Examiner